

Work Order ID 58971

Thursday, May 20, 2010 12:36:57 PM



Page 1

Item ID: D4054-003

Accept



Setup Start



Revision ID:

Item Name: Tube Assembly

Stop



Start Date: 5/20/2010 Start Qty: 6.00



Cust Item ID:

Required Date: 5/31/2010 Req'd Qty: 6.00



Customer:

Reference:

Approvals:

Process Plan: ✓Date: 10-5-20 Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

Draw Nbr

Revision Nbr

D4054

A

100

0.00



Small Fab

Small Fab

Memo

0.00

Small Fab

Bend tube as per Dwg D4054

Install sleeves and nuts

Flare ends as per Dwg D4054.

> m-k 10/05/26

(6X)

110

0.00



QC5- Inspect part completeness to step on W/O

QC

Memo

0.00

Quality Control

S 10/05/27

(46)



| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod.Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
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NOTE: Date & initial all entries

Work Order ID 58971

Thursday, May 20, 2010 12:36:57 PM

Page 2

Item ID: D4054-003

Accept



Setup Start



Revision ID:

Item Name: Tube Assembly

Stop



Start Date: 5/20/2010 Start Qty: 6.00



Cust Item ID:

Required Date: 5/31/2010 Req'd Qty: 6.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

120

Identify as per dwg & Stock Location: 193

0.00



Packaging

Memo

0.00

Packaging

10-5-27 MS SP

130

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

10/06/01 MF
10-5-27

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
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NOTE: Date & initial all entries

Picklist Print

Thursday, May 20, 2010 12:37:02 PM

Page 1

Work Order ID: 58971

Parent Item: D4054-003

Parent Item Name: Tube Assembly


Comments: IPP rev A 10.01.19 new issue EC verified by:DD

Start Date: 5/20/2010

Required Date: 5/31/2010

Start Qty: 6.00

Required Qty: 6.00

| Component Item ID/ Item Name | Replacement Item ID | Mfg/ Purch | Bin Item | Primary Location | Last Location | Route Seq ID | Unit of Measure | Qty on Hand | Qty per Kit | Qty Issued | Date Issued | Status |
|---|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|-------------|---------------|----------------|--------|
| AN818-8D  | | Purchased | No | | | 100 | Each | 81.0000 | 2 | | | |
| Nut | | | | | | | | | | | | |

| Location | Loc Qty | Loc Code |
|----------|---------|----------|
| ST331 | 81 | |
| 113795 | 1 | |
| 114382 | 20 | |
| 114523 | 20 | |
| 114544 ✓ | 40 | |

M6061T6T0.500W.049

Purchased

No



6061-T6 RD Tube .500 x.049W

100

f

88.9756

1.94

| Location | Loc Qty | Loc Code |
|----------|---------|----------|
| MAT | 67.3684 | |
| 114520 | 24 | |
| 114530 ✓ | 43.3684 | |
| MAT014 | 21.6072 | |
| 111028 | 16.5895 | |
| 111944 | 5.0177 | |

MS20819-8D

Purchased

No



Sleeve

100

Each

72.0000

2

| Location | Loc Qty | Loc Code |
|----------|---------|----------|
| ST323 | 72 | |
| 113795 ✓ | 32 | |
| 114445 | 40 | |

12x m-l 10/05/26

11.64 m-l 10/05/26

12x m-l 10/05/26

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
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| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
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NOTE: Date & initial all entries

| ITEM NO. | QTY | P/N | DESCRIPTION |
|----------|-----|------------|---------------|
| 1 | X | D4054-001 | TUBE ASSEMBLY |
| 2 | 2 | MS20819-8D | SLEEVE |
| 3 | 2 | AN818-8D | NUT |

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 58971
BS10-5-20

RELEASED
2010-01-14
WJD

D4054-001 TUBE ASSEMBLY

NOTES:

- 1) MATERIAL: 6061-T6 SEAMLESS ALUMINUM TUBING 0.500 O.D. x 0.049 WALL
PER WW-T-700/6
REF DART SPEC M6061T60.500W.049
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4054-001" USING FINE POINT PERMANENT INK MARKER
- 7) WEIGHT: 0.20 lbs
- 8) TUBING ASSEMBLIES TO BE CUT AND BENT IN ACCORDANCE WITH TEMPLATE D4054-001T1
- 9) TUBES TO BE FLARED 37° TO MATE WITH MS33514 FITTINGS, TYPICAL
- 10 ENSURE SEAMLESS TUBING IS USED

| | | | | | |
|---|-------------|-----------------------------|--------------|----|----------|
| A | | NEW ISSUE | | RF | 09.12.30 |
| REV. | DESCRIPTION | | | BY | DATE |
| DESIGN | RF | DART AEROSPACE LTD | | | |
| DRAWN | RF | HAWKESBURY, ONTARIO, CANADA | | | |
| CHECKED | <u>AB</u> | DRAWING NO. | REV. A | | |
| MFG. APPR. | <u>CE</u> | D4054 | SHEET 1 OF 3 | | |
| APPROVED | <u>AD</u> | TITLE | SCALE | | |
| DE APPR. | <u>AD</u> | TUBE ASSEMBLIES | NTS | | |
| DATE | 09.12.30 | | | | |
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| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
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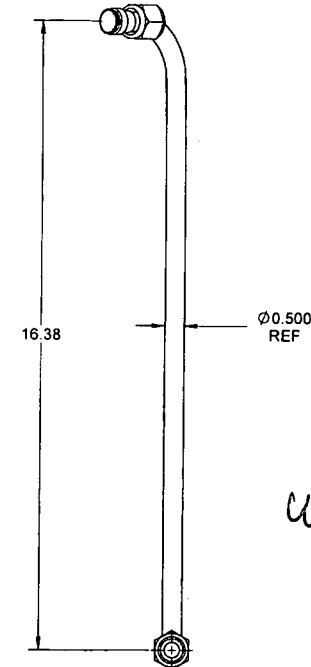
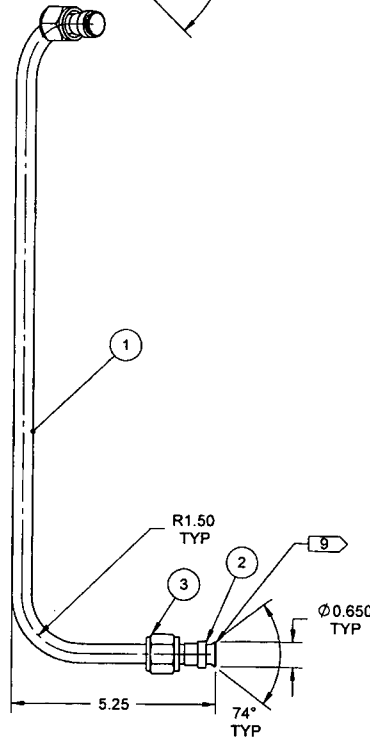
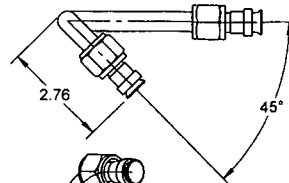
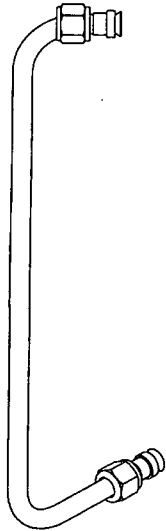
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
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NOTE: Date & initial all entries

| ITEM | QTY -003 | P/N | DESCRIPTION |
|------|-------------|------------|---------------|
| 1 | X | D4054-003 | TUBE ASSEMBLY |
| 2 | 2 | MS20819-8D | SLEEVE |
| 3 | 2 | AN818-8D | NUT |



w/o 58971

RELEASED
2010-01-14
mp

NOTES:

- 1) MATERIAL: 6061-T6 SEAMLESS ALUMINUM TUBING 0.500 O.D. x 0.049 WALL
PER VWV-T-700/6
REF DART SPEC M6061T60.500W.049
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4054-003" USING FINE POINT PERMANENT INK MARKER
- 7) WEIGHT: 0.21 lbs
- 8) TUBING ASSEMBLIES TO BE CUT AND BENT IN ACCORDANCE WITH TEMPLATE D4054-003T1
- 9) TUBES TO BE FLARED 37° TO MATE WITH MS33514 FITTINGS, TYPICAL
- 10) ENSURE SEAMLESS TUBING IS USED

D4054-003 TUBE ASSEMBLY

| | | | |
|------------|----------|--|--------------|
| DESIGN | RF | DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA | |
| DRAWN | RF | | |
| CHECKED | RF | DRAWING NO. | REV. A |
| MFG. APPR. | RF | D4054 | SHEET 2 OF 3 |
| APPROVED | RF | TITLE | SCALE |
| DE APPR. | RF | TUBE ASSEMBLIES | NTS |
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| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
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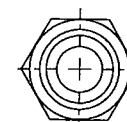
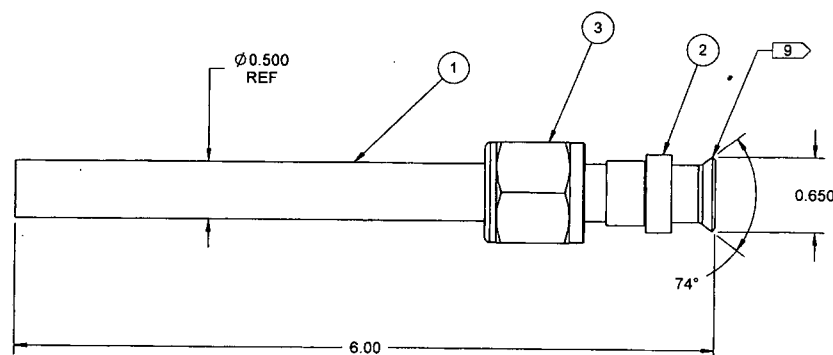
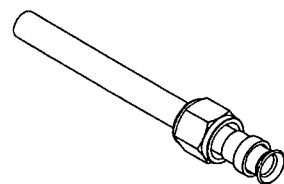
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
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| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
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NOTE: Date & initial all entries

| ITEM | QTY -009 | P/N | DESCRIPTION |
|------|-------------|------------|---------------|
| 1 | X | D4054-009 | TUBE ASSEMBLY |
| 2 | 1 | MS20819-8D | SLEEVE |
| 3 | 1 | AN818-8D | NUT |



D4054-009 TUBE ASSEMBLY

w/o 5894

RELEASED
2010-01-14
MD

NOTES:

- 1) MATERIAL: 6061-T6 SEAMLESS ALUMINUM TUBING 0.500 O.D. x 0.049 WALL
PER WW-T-700/6
REF DART SPEC M6061T60.500W.049
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4054-009" USING FINE POINT PERMANENT INK MARKER
- 7) WEIGHT: 0.07 lbs
- 8) TUBING ASSEMBLIES TO BE CUT AND BENT IN ACCORDANCE WITH TEMPLATE D4054-009T1
- 9) TUBES TO BE FLARED 37° TO MATE WITH MS33514 FITTINGS
- 10 ENSURE SEAMLESS TUBING IS USED

| | | | |
|------------|-----------|--|--------------|
| DESIGN | RF | DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA | |
| DRAWN | RF | | |
| CHECKED | <i>AB</i> | DRAWING NO. | REV. A |
| MFG. APPR. | <i>BE</i> | D4054 | SHEET 3 OF 3 |
| APPROVED | <i>MD</i> | TITLE | SCALE |
| DE APPR. | <i>H</i> | TUBE ASSEMBLIES | NTS |
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| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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NOTE: Date & initial all entries